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Peak Oil after Hydrofracking

Gerry Canavan

The nightmare, in good nightmare fashion, has something absurd and nearly inescapable about it: either we will begin running out of oil, or we won't.¹

“What happens,” Brent Ryan Bellamy asks, “when the apocalypse, correctly foretold by the right portends, does not come to pass?”² Leftists in the United States have had to contend with multiple versions of this problem since the end of the Bush administration and the election of Barack Obama signaled the collapse of the Left’s alliance with the Democratic Party around 2009 — but nowhere is this sense of deflated apocalypticism more pointed, I would suggest, than in the complicated and intertwined double helix of energy and climate politics. For a time in the mid-2000s the urgent union of these two crises seemed to offer a sort of silver-bullet argument against late capitalism. At times the question of “peak oil” matched or even exceeded the salience of climate change as a driver of pessimistic futurological projection; the petroleum energy basis on which contemporary capitalism depended was not only radically destabilizing the climate of the planet (which, bizarrely, was by itself an insufficient argument for change) but was actually running out altogether. There simply was no future for petroleum-based capitalism. As Imre Szeman’s crucial articulation of the “oil ontology” of twentieth-century capitalism suggests, oil has undergirded the production chain of *everything* in the twentieth and twenty-first-centuries, from agriculture to worker mobility to transportation and

distribution to the boundless creation of plastic consumer goods — and so the prospect of an imminent oil-less future seemed at the time to suggest an inevitable near-term endpoint to capitalism as such.³ The moment of reckoning was finally at hand; things simply could not continue on as they had. Civilization still faced the old choice between socialism and barbarism — but, either way, *something* would have to change.

The energy boom of the 2010s, coupled with the Democrats' retaking of the White House and the consequent retreat of the party apparatus from oppositional rhetoric, completely upended these ideological assumptions. First, Obama was popularly taken to be the wise guarantor of the future just as Bush was taken to be its idiot destroyer; the focus of liberal (as opposed to leftist) activism consequently shifted away from issues that might counter or threaten that position. More importantly, however, the discovery of a major new fossil fuel energy source in hydrofracking (as well as new ability to utilize oil reserves once thought inaccessible through such practices as deep-sea drilling and oil-shale extraction) suggests that the true moment oil "peaks" may yet be many decades or even centuries in the future. Meanwhile the location of many of these new reserves within the geopolitical boundaries of the United States has inverted the familiar, moral-panic rhetoric around "energy independence" to remap the U.S. *itself* as the globe's leading petrol state. The seesaw of Kunkel's "nightmare" seems now to have tipped permanently in the "we won't" pole of the dialectic. The wish has been granted: there is plenty of oil after all, so much oil in fact that at time of writing consumer gasoline prices had plummeted to prices so low they have not been seen since the 1990s.⁴ But this is the sinister sort of wish granted by the monkey's paw or by an evil genie: there is plenty of oil for us to permanently raise the temperature of the planet, drastically raising sea levels around the globe, while threatening to toxify the freshwater-table of huge portions of the U.S. in the bargain.

A green Marxism which had allowed itself to become invested in peak oil as proof of capitalism's incipient vulnerability now faces a very

different sort of futurity, one in which capital seems more vital and more *energized* than ever. This chapter thus looks back at the ideology of peak oil and the impending energy scarcity it implied alongside the emergence of hydrofracking as a hydrocarbon-extraction technology and the cultural dominance of post-Obama liberal optimism in order to situate a new Marxist politics of energy. I use peak oil's example of apocalypse-gone-wrong to show the pressing need for Marxist ecological critique that is not predicated on a logic of impending collapse but which is rather able to challenge capitalism in a moment of triumph: a moment like our era, when renewed possibility of rapid economic growth goes hand-in-hand with horrifying prospects for new and permanent ecological devastation. Marxists must find ways to confront the new energy "normal" — glut over scarcity, expansion over decline — that now structures the global economic system, as it rapidly and recklessly generates new financial, legal, and social forms around the fracking industry with which liberal politics is already too complicit to critique, control, or oppose.

Whatever Happened to peak oil?

As a concept, "peak oil" is organized around a number of claims that are not only valid on an abstract theoretical level but which have been empirically — if somewhat problematically — confirmed in the historical decline of actual oil production in different localities (most famously in the United States in the 1970s).

(1) The natural processes that produce petroleum in the Earth's crust take place on a million-year geologic timetable far exceeding the timetable of human use (or, indeed, the world-historical lifespan on the human species as such), rendering petroleum by definition a finite, nonrenewable resource.

(2) Oil within a bounded geographic region (whether local or global) will tend to be produced in a roughly bell-shaped curve, as rapid discovery and extraction first cause exponential growth in the rate of

oil production which reaches a peak and then declines, as discoveries of new reserves peter out and what oil remains in the ground becomes harder, and thus more expensive, to extract.

The bell-curve model was generated famously by M. King Hubbert in 1956 and accurately predicted oil production patterns in the U.S. in the late 1960s and 1970s, among its other confirmations. The pre-hydrofracking peak for oil production in the U.S. occurred at 9.6 million barrels in 1970, precisely in Hubbert's predicted range between 1965 and 1971, and oil production declined along a Hubbert curve for the following four decades, also as he predicted.⁵

Peak oil is not, of course, the day oil "runs out" altogether — the United States is still producing oil using traditional drilling methods to this day. Peak oil represents instead the moment when oil production in the locality ceases to grow — the apex of the curve when you are, roughly speaking, halfway through your total extractable reserves.

Hubbert's theory of peak oil — implicit, in some sense, in the notion that oil is a finite resource that must run out eventually — suddenly rose to great cultural prominence in the U.S. and elsewhere during the 2000s, as multiple production indicators seemed to predict that *global* peak oil was imminent or even perhaps had already been reached. (The uncertainty derives in part from lack of reliable data around oil reserves, especially in OPEC nations.) In the mid-2000s it was common to see predictions that global peak oil had *already* been reached, often around 2006, with various academics, lobbying groups, the International Energy Agency (IEA), and even the Texas oil magnate T. Boone Pickens coalescing around that date. Other predictions and studies placed the supposed deadline around 2010, with an even wider consensus approaching universality if one expanded the locus of concern to "in the next few decades"; relatively few observers believed peak oil was further off than that, or indeed that it would never be reached, with those advocating for this Panglossian, "cornucopian" position typically associated with either oil companies or oil-producing states.

The global peak is obviously quite different, and much more disastrous, than any local production peak; oil can be transported from this locality to that locality relatively easily — but if the oil production of *the entire globe* has peaked without any novel energy form on the horizon to take oil's place at the heart of capitalist production, that would appear to augur permanent economic recession and long-term civilizational decline, even, perhaps, a rapid and permanent collapse. The threat posed by global peak oil, in other words, exposes something fundamental about the nature of the global economy. The capitalist world market is predicated on permanent year-over-year growth — small declines in the *rate* of growth are considered economically catastrophic, much less actual declines in GDP — and growth has historically corresponded closely with increased energy consumption. Consequently, an inability to continue growing the total amount of oil available to the system suggests a permanent constraint on the possibility of permanent economic growth forever (the fantasy logic on which the entire financial system is predicated).⁶ Even a relatively small shortfall (which, post-peak, would grow larger each year) would upend this foundational assumption of contemporary global capitalism, threatening the stability of the entire system and presaging economic catastrophe in both the short and long term. Even supplemented with new sources of renewable or non-renewable energy, nothing like the total energy available during the golden age of oil is likely to ever return without new oil.⁷

The prospect of global peak oil was thus a vision of an imminent end of the world at least as we have come to know it. Alongside and often in concert with other 2000s-era apocalyptic fears, the popularization of peak oil as a concept contributed to widespread mass anxiety about the shape of the near-term future, as well as spawned marginal survivalist, or “prepper,” discourse communities (facilitated by online media), in which people concerned about peak oil attempted to prepare, now, for the harsh struggles coming in the post-oil world.

One of many figures gaining international notoriety on the strength

of peak oil fears — perhaps, indeed, its most globally influential prophet of doom — has been James Howard Kunstler, author of *The Long Emergency: Surviving the End of Oil, Climate Change, and Other Converging Catastrophes of the Twenty-First Century*. The extended title alone suggests how seamlessly different anxiety categories could be integrated within the panicked ideology of post-9/11 America; Kunstler's book is itself quite self-conscious about this phenomenon, inviting its readers on the first page to see peak oil as the ontological equivalent of the 9/11 terrorist attacks, a crisis for which the country is similarly unprepared:

Even after the terrorist attacks of September 11, 2001, that collapsed the twin towers of the World Trade Center and sliced through the Pentagon, America is are [sic] still sleepwalking into the future. We have walked out of our burning house and we are now headed off the edge of a cliff. Beyond that cliff is an abyss of economic and political disorder on a scale that no one has ever seen before. I call this coming time the Long Emergency.⁸

Peak oil loomed this large because

The American way of life — which is now virtually synonymous with suburbia — can run only on reliable supplies of dependably cheap oil and gas. Even mild to moderate deviations in either price or supply will crush our economy and make the logistics of daily life impossible.⁹

Popular documentaries like *The End of Suburbia: Oil Depletion and the Collapse of the American Dream* (in which Kunstler appears as an expert) similarly linked oil with the very idea of America itself. The cultural narratives Kunstler attaches to oil — the dialectic between abundance/prosperity/progress vs. deprivation/catastrophe/collapse — and the vision of America as a sleeping nation poised on the brink of its own destruction is predicated on the same foundational assumptions that underscore the larger politics of the period, drawing

on images of imminent disaster that were deployed both on behalf of, and as critique of, the Bush administration.

The idea of peak oil is thus revelatory of how America understood itself in the Bush-era mid-2000s: a fragile superpower living on borrowed time, facing a moment of final reckoning. Such fears cut to the heart of U.S. self-perception, inverting the techno-utopian optimism that had historically structured its popular culture — an optimism that was itself the ideological by-product of the now-sputtering fossil fuel economy, as Chad Harbach writes:

America and the fossil-fuel economy grew up together; our triumphant history is the triumphant history of these fuels. We entrusted to them (slowly at first, and with increasing enthusiasm) the work of growing our food, moving our bodies, and building our homes, tools, and furniture — they freed us for thought and entertainment, and created our ideas of freedom. These ideas of freedom, in turn, have created our existential framework, within which one fear dwarfs all others: the fear of economic slowdown (less growth), backed by deeper fears of stagnation (no growth) and, unthinkably, contraction (anti-growth). America does have a deeply ingrained, morally coercive politics based in a fear that must never be realized, and this is it. To fail to grow — to fail to grow ever faster — has become synonymous with utter collapse, both of our economy and our ideals.¹⁰

Peak oil likewise became, from the perspective of the peak oil community, the secret paranoiac key to explain everything that was happening in the mid-2000s: the sometimes inscrutable behavior of the Bush administration (first and foremost the disastrous invasion and occupation of Iraq) becomes perfectly comprehensible, the argument goes, when understood as an attempt to establish a permanent American military presence on top of the world's largest remaining oil reserves in an attempt to manage the coming decline, over and against hostile imperial competitors like Russia and China.¹¹ It was even understood by many such thinkers to be the hidden truth

lurking behind the global Great Recession that began in 2007. The central idea was that we were already living with peak oil, whether or not it was technically already here: on the level of speculation and preparation, the world was already adapting to the miserable constraints peak oil would soon place upon us all.

Moreover, regardless of the concrete production data or the actual timetable, the math of peak oil was said by its proponents to be implacable: nothing could prevent the collapse of industrial civilization and the return to a generally pre-twentieth-century standard of living, as visualized in multiple media, including Kunstler's own prognosticative science fiction novel, *World Made By Hand* [2008], set "sometime in the not-distant future" (as well as its sequels *The Witch of Hebron* [2012] and *A History of the Future* [2014]).¹² The novel depicts the breakdown of civil society in the United States — the collapse of electricity, mass media, and consumer capitalism; military coups; a "fiasco in the Holy Land"; the abolition of Congress; brushwars with Mexico; a return to religious fundamentalism — and the necessary return to hyperlocal production of food and other goods.¹³ Implicit in that return to a nineteenth-century standard of living was the prospect of a mass die-off of the human race; it was a common observation of peak oil proponents that the population of the earth was approximately one billion people in the pre-oil age, which Kunstler and others posit is "about the limit that the planet Earth can support when it is run on a nonindustrial basis."¹⁴ Only a seventh of the people alive today would even survive the transition to the poverty-stricken, disease-ridden Long Emergency, almost a full decimation of the human race. And the prize of survivorship would disproportionately go, in a cruelly Social Darwinist logic, to the meritorious few who heeded Kunstler's warning and prepared now.

"The future sure isn't what it used to be, is it?" one of Kunstler's characters asks another in *World Made By Hand*.¹⁵ Whereas once technological progress was imagined to transcend all possible technical or ecological limits — the happy *Star Trek* future — the ideology of peak oil saw the energy limit as transcendent above all considerations,

and soon humanity would come crashing cataclysmically down. What's worse, oil replenishes in the Earth's crust far too slowly to ever give humanity a second chance at a techno-utopian future, having squandered this one. Not only the American nation, but the entire species, would be extinct many millennia before the oil came back.

Oil after Peak Oil

It would be perhaps a bit unfair to say that Kunstler and his acolytes — and I would certainly have counted myself among them, at least intellectually — were *wrong*, exactly. The peak oil prophets of doom were right in the sense that technological modernity really has been radically dependent on oil as what Matthew Huber calls its “lifeblood”: oil is essentially stored-up free energy, releasing far more energy than it costs to extract, allowing tremendous amplification of mankind's powers and fueling all the technological wonders of the twentieth century.¹⁶ They were also correct that it would not take a large decrease in our ability to extract and produce oil to send the world spiraling into severe economic depression. If that decline increased year over year and became permanent we really would be looking at a steep permanent decline in the global standard of living, likely including severe dislocation, wars, deprivation, and hardship as people attempted, in crisis mode and under new conditions of austerity, to retrofit local production to replace what has become a global marketplace. All this without even mentioning the knock-on social catastrophes promised by carbon-sourced climate change, which would themselves be harder to respond to in the austerity mandated by a slowed-down post-oil economy.

What's more, oil is *still* a finite resource and *will* begin to run out eventually; the clock is still ticking on generating an alternative source of energy to power civilization before that happens. Something like peak oil is a necessary and inevitable consequence of the natural conditions that produce oil and the economic forces that govern our extraction of it; an economy that never transitions away from oil onto some other form of energy storage (whether renewable, like solar or

wind, or, ecologically disastrous, some substitute derived from our still-ample coal reserves) will eventually experience a peak oil event.

It is clear, however, that despite these caveats the concept of peak oil no longer has much political salience as an apocalyptic prediction about the future. We've stopped worrying about it. What happened? I suggest a number of factors have collided to make peak oil proponents lose the influence they had garnered over the liberal-left in the mid-2000s. First, as suggested, the election of Barack Obama as president in 2008 reorganized the liberal left around a politics of optimism rather than pessimism, as well as around a politics of continuity rather than resistance. One can note a similar deflation not only in other wings of the environmental movement but in the antiwar movement, which largely evaporated following his election even as the wars continued. The global economic collapse of 2008 masked oil scarcity significantly by causing demand to plummet; the crisis was severe enough that global carbon emissions declined for the first time in decades (as well as causing a significant crash in oil prices that have still not returned to their mid-2000s peak). In the years since 2009 there have been genuine social investments in alternatives to oil, especially in a rapidly expanding solar market, that have allowed some of this declined reliance on carbon energy sources to become permanent.

But one of the major factors in the decline of peak oil as a cultural-ideological phenomenon is the fact that peak oil has, seemingly counter to Hubbert's logic, actually been reversed within the United States.

Hubbert's model explicitly excluded petroleum derived from oil shale and oil sands, focusing exclusively on conventional drilling. This assumption was justified in part by the longstanding technical difficulty and inefficiency of extracting oil from such sources, which had suggested that they may never be tapped in any significant way. However, recent technological innovations have turned these geological formations into important sources of both petroleum and natural gas hydrocarbons; a side-drilling technique called

“hydrofracking” in which oil shale formations are dislodged with a blast of water and chemicals, developed by a Texan driller named George Mitchell in the late 1990s and refined in the decade following, has now made them viable as oil and natural gas reserves. The effect of the so-called “shale revolution” on the market since 2010 has been so significant as to allow the United States to regain its pre-1970s historical position as the top producer of hydrocarbons in the world (overtaking Russia). In 2013 and 2014, the last year data was available at the time of my writing, the United States had even overtaken Saudi Arabia as the top producer of petroleum hydrocarbons.

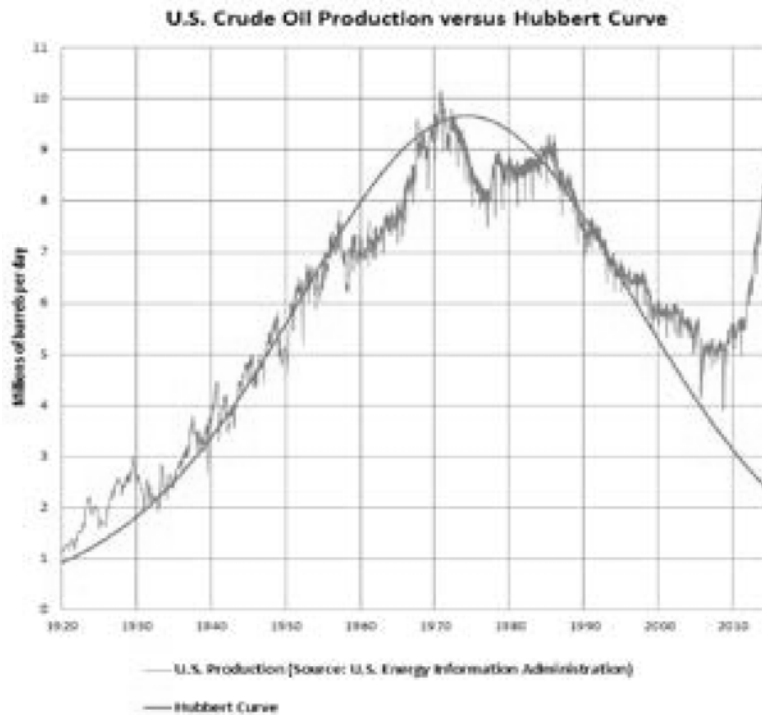


Figure 1. U.S. Crude Oil Production versus Hubbert Curve. Wikipedia.

The unexpected return of the United States to the position of the world's leading petrol state — at least for the time being — has sparked an economic boom in many otherwise economically isolated or depressed areas, most famously in the Bakken oil fields of western North Dakota, a state which was able to sustain economic growth even through the catastrophic Great Recession of 2007–2009 (as well as through the following period of very slow growth that followed elsewhere in the early 2010s). Similar periods of outsized or countercyclical economic growth have been seen in regions of Texas, Wyoming, West Virginia, Pennsylvania, and other U.S. states as well. Increased and improving extraction of unconventional oil from the “tar sands” of Alberta in Canada — said to match the conventional oil reserves of the entire rest of the world — have similarly fueled outsized economic growth in that region.

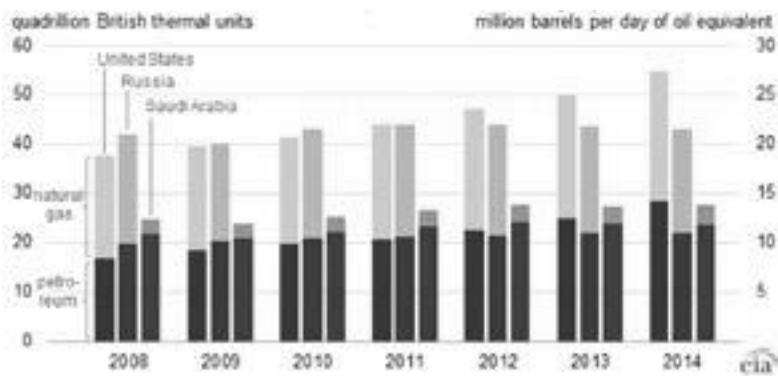


Figure 2. Estimated U.S., Russia, and Saudi Arabia petroleum and natural gas production. U.S. Energy Information Administration.

The fevered “gold rush” atmosphere of the current hydrocarbon revolution has induced a race to legalize and promote hydrofracking across the country and indeed across the world, oftentimes with little or no public debate or oversight. Indeed, as I was finishing this chapter, Britain was just beginning to award licenses for shale exploration

across England and Great Britain. As *Mother Jones* has recounted, promotion of oil shale extraction by U.S. oil firms was a major priority of the Clinton Department of State following the election of Barack Obama in 2008, leading to development projects across Eastern Europe and Africa, and continued to be so under John Kerry's tenure.¹⁷ While not all of these development projects have been successful — in part due to nuances in property law that make the United States an especially attractive place for fracking projects, and in part due to local anti-capitalist and anti-U.S. resistance movements — the amount of currently recoverable global shale gas resources numbers in the thousands of trillions of cubic feet while the amount of shale oil (or “tight oil”) is estimated to constitute over four hundred billion barrels, constituting decades of fossil-fuel consumption at current levels.¹⁸

Hydrofracking has, in just a few years, utterly reversed the moods and discourses previously associated with oil capitalism: rather than seen as the exhausted token of a capitalism whose internal vitalism is slowly wearing down — the harbinger of a coming collapse — oil is once again seen as plentiful and ubiquitous, both a source of economic growth and the guarantor of a consumer-capitalist with a long future ahead of it. While something like a peak oil event still awaits industrial civilization if no successor energy source is ever developed, the combination of oil shale and oil sands development now places this event significantly into the future, well beyond the typical scope of planning or political struggle in the present. Capitalism has been saved.

Energy, Law, and the Monkey's Paw

The good news, then, is that peak oil seems to have been something of a false alarm: a genuine threat to global safety and to the future of industrial civilization that has been averted, at least for now, through the development of new sources of energy. But the bad news implicit in the Benjamin Kunkel quote with which I began remains just as crucial: while the fracking of natural gas provides an energy source that releases less carbon and fewer pollutants into the air than coal

plants, and is likely at least part of the reason for the decline in U.S. carbon emissions since 2005, it is still a fossil fuel and will nonetheless contribute to the climate crisis going forward. (Indeed, multiple studies indicate that when methane leaks at the site of extraction are taken into account, natural gas fracking may be as bad for global warming as coal.¹⁹) Moreover, to the extent that hydrofracking corporations gain political influence as a result of both their growing wealth and their ability to create local economic booms, they will likely use this power not only to combat their own regulation but to prevent state support for noncarbon and renewable sources of energy, a so-called “lock-in” effect that could stymie environmentalist efforts to finally move beyond hydrocarbons.²⁰ Additionally, to the extent that hydrofracking lowers energy costs, it also lowers the potential market value of new battery and energy-efficiency technologies, disincentivizing private investment in these sectors even as the fossil fuel industry consolidated the political power necessary to block publicly funded research.²¹

Hydrofracking also poses significant environmental risk simply in its own terms. The years since the beginning of the fracking boom have seen countless studies on the negative consequences of fracking on public health, including a Yale University study that indicates people living close to fracking sites are twice as likely to develop respiratory illness as people living further away; another from the University of Missouri ties fracking to disruption of the endocrine system a phenomena that has been linked to heightened risk for cancer; another shows a risk to newborn babies born near fracking sites; still another links fracking to premature births and high-risk pregnancies; and on and on.²² According to a 2013 estimate, more than fifteen million Americans lived within a mile of a fracking well — a number that will inevitably climb as more and more oil shale begins to be extracted.²³

The water table may represent fracking’s worst environmental and public health threat. Despite a recent report from the Environmental Protection Agency (EPA) claiming “we did not find evidence that

[hydrofracking has] led to widespread, systemic impacts on drinking water resources in the United States,” there have in fact been thousands of cases of new well-water contamination confirmed in Pennsylvania, West Virginia, Texas, and elsewhere since the fracking boom began — though government complicity and nondisclosure agreements following lawsuits often prevent a direct link between fracking and well-water contamination from being confirmed.²⁴ (In North Dakota, the state is not even required to tell the public about oil spills, meaning 300 spills and 750 “oil field incidents” went unreported just between January 2012 and October 2013, according to an Associated Press report.²⁵) A University of Texas study discovered extremely high levels of arsenic near fracking sites, above EPA limit for safety, in 2014.²⁶ Even the EPA’s own exculpatory study confirmed the presence of fracking chemicals and wastewater in multiple sites while denying the problem was systematic:

In fact, at the five sites EPA selected for its retrospective studies, they found problems everywhere and most of the time, the only available explanation was fracking. An aquifer was contaminated with wastewater and tert-butyl alcohol in North Dakota and EPA concluded that the only possible cause was a blow-out during fracking; in Northeastern PA, where gas is often naturally found in water supplies, 9 out of the 36 wells EPA analyzed were newly contaminated due to fracking activities (25%); salty groundwater contamination in Southwestern PA likely came from a fracking wastewater pit; in two of the drinking wells EPA studied in Wise County, TX, the only explanation consistent with the EPA found contamination was brines from fracked rock layers and a third drinking well may have also been similarly polluted; and in Raton Basin, CO, EPA found pollution but couldn’t “definitively” link it to the coalbed fracking done in the area.²⁷

In California, state officials allowed fracking companies to pump wastewater directly into its underground aquifers, in defiance of EPA standards, at the height of its current historic drought;

another California firm was found and fined for simply pumping its wastewater into an unlined pit, making groundwater contamination extremely likely.²⁸

Public access to water is threatened by fracking in another sense as well: as the American southwest battles unprecedented drought, the oil industry's new demands on water for its fracking wells have contributed to water scarcity; in some counties in Texas, for instance, the fracking industry alone is responsible for 25 percent of local water use, exhausting reservoirs and underground aquifers.²⁹ Elsewhere in the country fracking firms have sued to gain access to water over and above local residents.³⁰ In light of the extreme toll hydrofracking takes on local water resources it would perhaps not be too extreme to describe fracking as a process for turning water *into* natural gas and oil.

Meanwhile the fracking rush has made North Dakota the most dangerous state in the country to work in: 17.7 deaths per 100,000 workers, five times and the national average and far and away the highest rate of any state in the United States. The rate was 7 in 100,000 before the fracking boom began.³¹ Since a 2015 study, it has also been linked to a steep rise in earthquakes in fracking zones, including a day in August 2014 where Oklahoma registered twenty earthquakes in a single day.³²

Despite an obviously pressing need for study and regulation of this new industry, localities, states, and the federal government have not only pushed for deregulation of drilling and fracking but have even made it impossible to acquire necessary information about fracking or publicly discuss its possible negative consequences. California, for instance, does not track the use of chemicals in fracking at all, and as of July 2015 has performed only a single water contamination study.³³ In a court case in which the Pennsylvania Department of Environmental Protection has admitted severe misreporting and multiple errors in its determination about the contamination of a local well, even the drilling company itself "was unable to provide information to the court about what chemicals it uses, despite being

requested by the court to do so multiple times.” The chemicals were provided to them by third-party manufacturers, and so even the drillers don’t know what they were using.³⁴

Many states have either passed laws or developed regulations that conspire to keep fracking chemicals secret. A well-known and well-litigated “gag” law in Pennsylvania even prevents doctors from discussing fracking chemicals with their patients in pursuit of treatment; the state Department of Health has also instructed its employees not to discuss the negative health effects of fracking with residents, according to whistleblowers.³⁵ This logic of obfuscation and secrecy has been extended even, absurdly, to a lifetime ban on two children aged seven and ten from *ever* talking to anyone about fracking, even other children, for the remainder of their lives, as part of a settlement between their parents and the drilling company that allegedly destroyed the family farm.³⁶

The United States’ federalist system of government, in which legal authority is vested across multiple overlapping levels of government, is being mobilized to help the fracking industry grow. In cases where localities have attempted to ban fracking, the overawing state government can overturn such bans, as has already happened in Texas and Oklahoma. When individual states require disclosure or regulation burdens on drillers, the federal government can neuter or obviate those requirements, as bills currently under consideration in the Republican-led Congress would. Only three states — New York, Vermont, and Massachusetts — have permanently banned fracking; of these, only New York is known to actually have natural gas reserves. Meanwhile hydrofracking projects are currently underway in over twenty-five states, at more or less every location in the country where such shale reserves are known to exist.

The future prospects for the current boom vary: some indications exist the shale revolution may be relatively short-lived, a “resource curse” like that seen in oil-rich countries in the Global South that enriches absentee drilling billionaires while leaving behind pollution, abandoned wells, and ghost towns in its wake, while other projections

suggest that some major oil shale and natural gas formations in the U.S. alone may in fact be viable drilling sites for decades (to say nothing of the prospects for hydrofracking the rest of the world). Either way, fracking provides the Marxist left with an important object lesson about the immense power and flexibility of the contemporary neoliberal state, and the radical difficulty of intervening against the total capture of the local, state, and federal agencies ostensibly meant to regulate drilling in the name of the public interest. Hydrofracking has in just five years become a major part of both the U.S. economy and the global energy marketplace without any significant legal or regulatory challenge at all, with government officials at all levels frequently intervening to undo or preemptively prevent any oversight whatsoever. The allure of an energy-sector economic boom is simply too attractive to risk being left behind — especially insofar as the negative effects (in accordance with the typical patterns of environmental racism and environmental classism) have thus far typically been felt on isolated and impoverished localities, rather than felt in rich and politically influential suburban enclaves or across the state as a whole.

To the extent that liberals and the left took up peak oil as a slogan, they have therefore missed entirely the much more significant threat to the common good originating not from having too little oil, but from having too much. Indeed, hydrofracking has been misleadingly presented to the public as the quasi-miraculous answer to both horns of the crisis Kunkel named, a supposedly environmentally friendly solution to the coming energy scarcity disaster. In promoting an atmosphere of crisis, the left has in some sense done the drillers' advance PR for them.

But hydrofracking has a more generally applicable lesson for the left as well, beyond the particularities of the energy field. I cannot help but think of a response from a Marxist economist I received several years ago after giving a talk on ecological Marxism and the concept of ecological debt at the Center for 21st Century Studies at the University of Wisconsin-Milwaukee. My respondent thought the

environmental critique of capitalism had certain merit, but worried that it was being taken up from a position of fear; the Left, he said, had been so traumatized by the catastrophic failure of the Soviet project and by the triumph of neoliberal capitalism that followed, it was turning to environmentalism out of the wounded desire to never be wrong again. He saw ecological Marxists like myself as making the fundamental ideological error of wishful thinking, committing the analytic sin of inevitabilism — as well as signaling a retreat from the pressing issues of labor and exploitation we no longer believed we could win on in favor of an ostensibly scientific certainty on which we believed we could never lose.

David Harvey has issued a similar warning. In a 1998 debate with John Bellamy Foster in *The Monthly Review*, Harvey argues that “the invocation of ‘limits’ and ‘ecoscarcity’ as a means to focus our attention upon environmental issues makes me as politically nervous as it makes me theoretically suspicious.” This kind of apocalypticism, Harvey said, risks becoming a depressive anti-humanism that both disempowers political work in the present and is fundamentally at odds with the Marxist project of human liberation.³⁷ But it also, perhaps most crucially, misleads the left into trusting that natural limits and automatic historical processes will somehow passively do the work of opposing capital for us. In fact, as Harvey notes in a later 2010 essay:

The history of capitalism is replete with many phases when “nature” is held to be an ultimate limit to growth. But the Malthusian scenario has never as yet really grabbed hold. This history is a very good example of how capital, when it encounters limits, exhibits considerable ingenuity in turning them into barriers that can be transcended or circumvented (by technological changes, opening up new resource regions and the like).³⁸

This is, it goes without saying, a precise anticipation of the way the hydrofracking boom of the 2010s has completely dislodged and

discredited the apocalyptic futurity of mid-2000s peak oil proponents, written in advance of its imminent happening.

Naturally, Harvey qualifies this proclamation immediately: “Because capital has successfully done this in the past does not necessarily mean, of course, that it is destined to do so in perpetuity. Nor does it imply that past episodes of supposed natural limits were negotiated smoothly and without crises.”³⁹ There *are* still limits; the technological power of humankind is by no means total or absolute. But all the same the collapse of the pessimistic ideology of peak oil in the face of hydrofracking suggests that the radical flexibility and adaptability of capitalist technological innovation in the face of apparent hard limits can never be underestimated.

The true site of “limit” is not material or natural, but social — and thus inevitablism of any sort, whether positive or negative, remains the left’s most seductive and dangerous cognitive trap. After peak oil — exactly as before it — the future is a site of class struggle: over the rights of workers, property owners, and municipalities to resist the exploitative, bottom-line thinking of privately held energy corporations; over the possibility of collective or governmental action to shape economic markets; over the rights of citizens to protect the integrity of their own water supply; over the constitution of the regulations, laws, special protections, and public expenditures whose terms will define our environmental and energy future. If hydrofracking indeed saved America from a deep depression — or from some even worse nightmare future after oil — that fact only registers the ongoing radical dependence of contemporary capitalism on its fossil fuel energy basis. The deep vulnerability made visible by that ecstatic swing from peak-oil panic to hydrofracked prosperity thus proves the field of energy production as a crucial strategic target for the resurgent socialist left. What capital has admitted it can’t live without, the left must seek to control.

Notes

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